

## INFORMATION SHEET

ORDER NO.  
NPDES NO. CA0081337  
SOUTHERN CALIFORNIA EDISON COMPANY  
BALSAM MEADOWS HYDROELECTRIC PROJECT  
EASTWOOD POWERHOUSE FACILITY  
FRESNO COUNTY

### BACKGROUND INFORMATION

Southern California Edison Company (Discharger) applied for a permit renewal to discharge water from its Eastwood Powerhouse Facility, an underground facility that generates hydroelectric power through a single pump-turbine connected to a motor/generator. The Facility is part of the Balsam Meadows Hydroelectric Project (hereafter “Balsam Project”), which includes a 5,900-foot diversion tunnel connecting the existing Huntington-Pitman-Shaver Conduit, a 4,320-foot power tunnel, an access tunnel, a construction tunnel used to store equipment and access different levels of the Facility, and a 7,500-foot Tailrace Tunnel with a 16-foot horseshoe section leading to Shaver Lake, a water of the United States.

The Discharger’s effluent consists of: 1) treated wastes from an oil and grease (O&G) separator which treats up to 0.01 million gallons per day (mgd) of wastewater from on-site cleaning operations and from leaking joints and bearings in the pump-turbine; 2) approximately 1.04 mgd of untreated groundwater that seeps into the tunnels, and 3) up to 2.5 mgd of untreated non-contact cooling water used to cool the pump-turbine. There are two discharge points from the Facility. Discharge Point 001 discharges from the Tailrace Tunnel to Shaver Lake and consists of the commingled waste streams described above. Discharge Point 002 is used only when the powerhouse is not operating and consists of untreated groundwater. Discharge Point 002 discharges to the North Fork of Stevenson Creek.

Discharger monitoring data indicate that the discharges are relatively free of solids, biochemical oxygen demand (BOD), and O&G. Results of chronic and acute toxicity tests performed in October 1995 at Discharge 001 to Shaver Lake (Waste Streams (WSs) 001A, 001B, and 003) and North Fork Stevenson Creek (Discharge 002) using fathead minnow (*Pimephales promelas*) as the test organism showed no significant toxicity in either discharge sample. Results of acute toxicity tests performed in May 1997 using rainbow trout (*Salmo gairdnerii*) as the test organism showed no toxicity in a sample of the Tailrace Tunnel discharge.

### BENEFICIAL USES OF THE RECEIVING WATER

The Basin Plan identifies the beneficial uses of the San Joaquin River, Sources to Millerton Lake as:

- Municipal and Domestic Supply (MUN);
- Agricultural Irrigation, Agricultural Stock Watering (AGR);

- Hydropower Generation (POW);
- Water Contact Recreation (REC-1);
- Non-contact Water Recreation (REC-2);
- Warm Freshwater Aquatic Habitat (WARM);
- Cold Freshwater Aquatic Habitat (COLD); and
- Wildlife Habitat (WILD).

The beneficial uses of the underlying groundwater, as identified in the Basin Plan, are MUN, Industrial Service Supply, Industrial Process Supply, and AGR.

### REASONABLE POTENTIAL ANALYSIS

#### CTR Constituents

The Discharger was issued a letter on February 27, 2001, pursuant to California Water Code, Section 13267, requiring effluent and receiving water monitoring meeting the requirements of the SIP. These data were required to assist the Regional Board in conducting reasonable potential analyses (RPAs).

On 8 January 2004 the Discharger submitted effluent and receiving water data for CTR constituents to the Regional Board for a sample taken on 8 May 2001. On 17 February 2004 the Discharger submitted effluent and receiving water data for priority pollutants for a sample taken on 20 January 2004. The RPA for CTR constituents was based on these effluent and receiving water monitoring data. Based on the RPA methodology in the SIP, no constituents have been found to have reasonable potential to cause or contribute to an excursion above water quality objectives or water quality criteria in the receiving water. Therefore, no effluent limitations currently are required for CTR constituents. The monitoring data from this study indicated no CTR constituents in detectable concentrations with the exception of mercury. The results of the RPA for mercury are summarized below.

CTR Parameter		MEC or Minimum	Maximum B or Minimum	Lowest Criterion	RPA
#	Constituent	MDL (µg/L)	MDL (µg/L)	(µg/L)	Result <sup>1</sup>
8	Mercury	0.0014	0.0014	0.05	No

1) RP =Yes, if either MEC or Background > WQO/WQC.

RP = No, if (1) both MEC and background < WQO/WQC or (2) no background and all effluent data non-detect, or no background and MEC<WQO/WQC.

### **EFFLUENT LIMITATIONS**

The Regional Board has determined that the effluent limitations applied to the internal waste streams as established under the previous Order continue to be appropriate, except for pH and flow that were adjusted based on Finding 18 of this Order.

### **RECEIVING WATER LIMITATIONS**

The Facility discharges to Shaver Lake and North Fork Stevenson Creek, both tributary to the San Joaquin River. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan establishes water quality objectives that apply to all surface waters in the Basin. This Order includes Receiving Water Limitations for: bacteria, biostimulatory substances, chemical constituents (lead, arsenic, barium, copper, cyanide, iron, manganese, silver and zinc), color, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, chloride, electrical conductivity, and dissolved oxygen based on the applicable narrative and numeric water quality objectives contained in the Basin Plan.

### **MONITORING AND REPORTING REQUIREMENTS**

The effluent discharge samples are collected from internal waste streams at locations that are more accessible than the discharge points (i.e. Discharge Point 001 is approximately 30 feet below the surface of Shaver Lake). An internal monitoring station is established at the main sump to collect samples of WS 001A, which consists of treated wastewater from the oil and grease separator commingled with groundwater. A sampling point at the oil and grease separator is not accessible at this time. Samples are also collected from the construction tunnel sump for WS 001B, which consists of groundwater.

A sample at Discharge Point 002 can physically be collected at the discharge location; however, the sample is drawn from the access tunnel sump. This is a safer location and representative of the discharge at Discharge Point 002 because no waste streams commingle with the groundwater waste stream prior to discharge to North Fork Stevenson Creek.

The monitoring and reporting requirements established under the previous Order continue to be appropriate for this discharge, with the following exceptions:

- Effluent and receiving water monitoring requirements for Discharge Point 002 have been changed from quarterly to monthly when in operation, and a sample must be collected on the first day of discharge. The outfall is used infrequently and for short periods of time.

Very little data is available to determine potential impacts of this discharge on the receiving water.

- Effluent and receiving water monitoring requirements were added for hardness, priority pollutants, and chronic toxicity for internal waste streams and discharge points. Priority pollutant monitoring is required under the SIP and hardness data is necessary to conduct reasonable potential analyses. Chronic toxicity monitoring is required once during the duration of this Order to determine whether the effluent is contributing toxicity to the receiving waters.
- Requirements to measure flow for North Fork Stevenson Creek was added to ensure such data are available for developing future permit requirements.
- Monitoring requirements for pH, conductivity, and temperature have been removed for WS 003. The monitoring requirement for flow remains. Waste stream 003 consists of non-contact cooling water from the powerhouse. The previous Order included effluent monitoring requirements for WS 003, similar to the requirements for WSs 001B and 002. The non-contact cooling water is directly discharged to the Tailrace Tunnel and commingled with WSs 001A and 001B prior to discharge to Shaver Lake. Currently there is no adequate sampling location that would be representative of this waste stream prior to commingling with other waste streams in the Tailrace Tunnel.

Acute toxicity monitoring is not required in this Order because the Discharger conducted a special monitoring study in 1995 and demonstrated that the discharge did not cause or contribute to acute toxicity in the receiving water. The Discharger does not propose to modify its operation nor the character and nature of its discharge during the current permit term. If the Facility's operation or character and nature of its discharge should change, the Discharger will report such changes to the Regional Board in accordance with the Standard Provisions of this Order, and the Discharger will be directed to conduct acute toxicity monitoring under the authority of Section 13267 of the California Water Code.

JE:je:5/26/2005